Illinois Environmental Protection Agency · P.O. Box 19276, Springfield, IL 62794-9276

SAUGET SITES/DEAD CREEK

FACT SHEET #3
JULY, 1988

In June, 1988, the Illinois Environmental Protection Agency (IEPA) released the Expanded Site Investigation Final Report, a $1.3 million, 1000 page technical study that identifies hazardous waste problems in the Sauget-Cahokia area. The study began in late 1985 as part of "Clean Illinois", the state program modeled after the Federal Superfund hazardous waste site program. The original study, the Dead Creek Remedial Investigation/Feasibility Study (RI/FS), was designed to locate and analyze buried hazardous wastes, identify potential impacts of the wastes and explore possible solutions.

Early in the project, IEPA and its consultant realized that the potential site solutions would probably cost more than the entire Clean Illinois budget, therefore, Federal funding would be needed. The RI/FS was redirected to an expanded Site Investigation (SI) in August, 1986 to determine the area's "Hazard Ranking System (HRS)" score and eligiblity for proposal to the Federal Superfund program.

Contamination Sampling in the Area

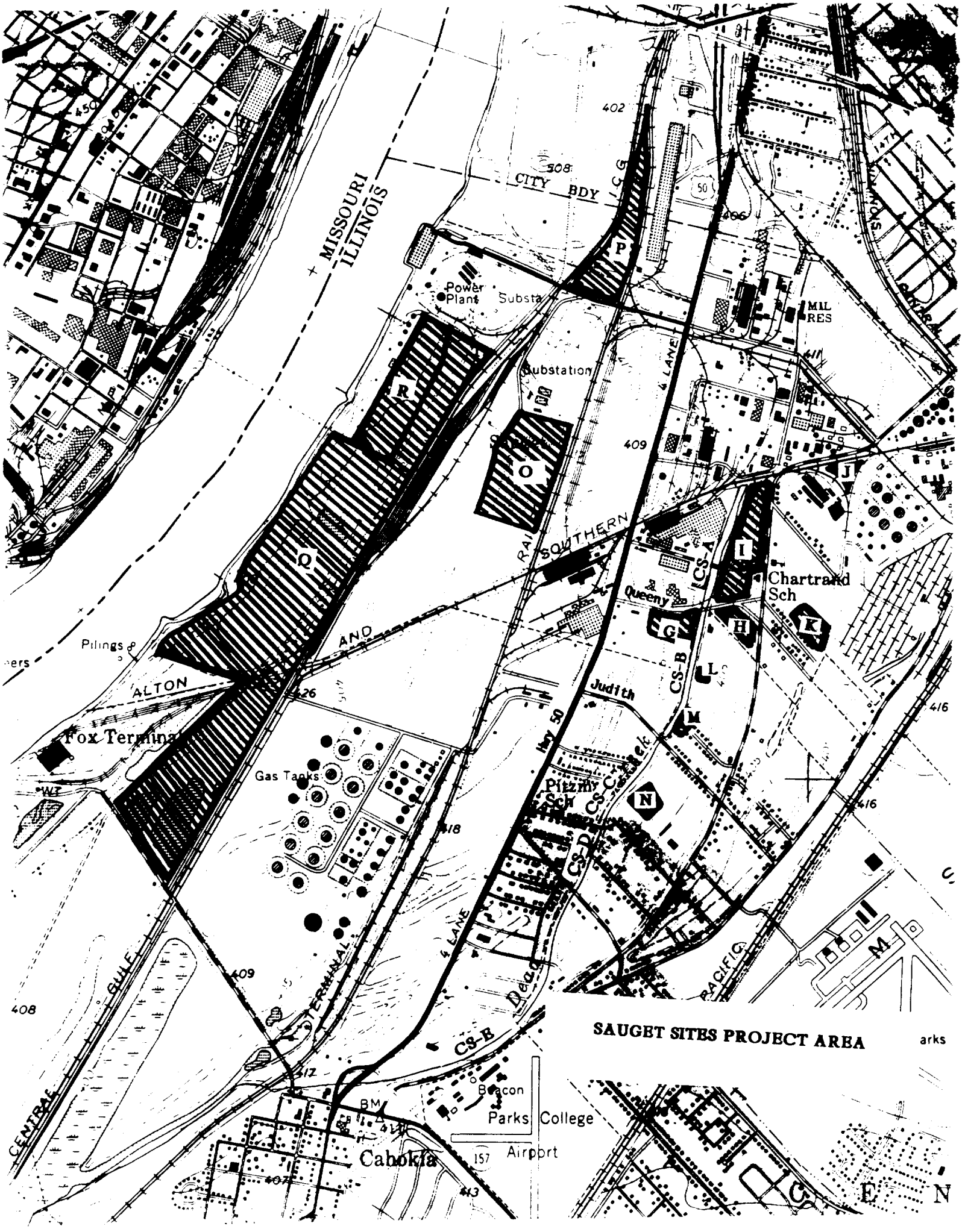
Local residents have known about area hazardous waste dumping locations and practices for many years and have provided valuable assistance and information to IEPA. In order to prove a project's eligibility for Federal funding, evidence of chemical contamination has to be established using Federal quality controls, methods and documentation. The sampling program for this project included:

* magnetometry and electromagnetic conductivity surveys to identify exact locations of buried materials (such as old steel drums), identify contamination movement below the ground's surface and assist in choosing locations for further testing,

* soil gas surveys to assist in identifying the boundaries of some of the sites, movement routes of contamination and best locations to place groundwater monitoring wells and soil test borings,

* surface water and sediment samples to determine contamination levels of Dead Creek from its beginning in Sauget, south into Cahokia,

* surface and subsurface soil sampling to characterize wastes,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* hydrogeologic investigation to provide preliminary data to evaluate groundwater quality, determine direction and level of groundwater and measure speed that water moves downward through the soil,

* air sampling to indicate whether sites contribute to air pollution.

Findings of the Study

The report draws upon all the sampling that was done, historical aerial photographs, previous reports, information provided by citizens and health effects studies to obtain extensive information about the hazardous wastes in the Sauget/Cahokia area. Pages 7-1 through 7-55 in the report provide a summary of the conclusions and a few of those are highlighted here.

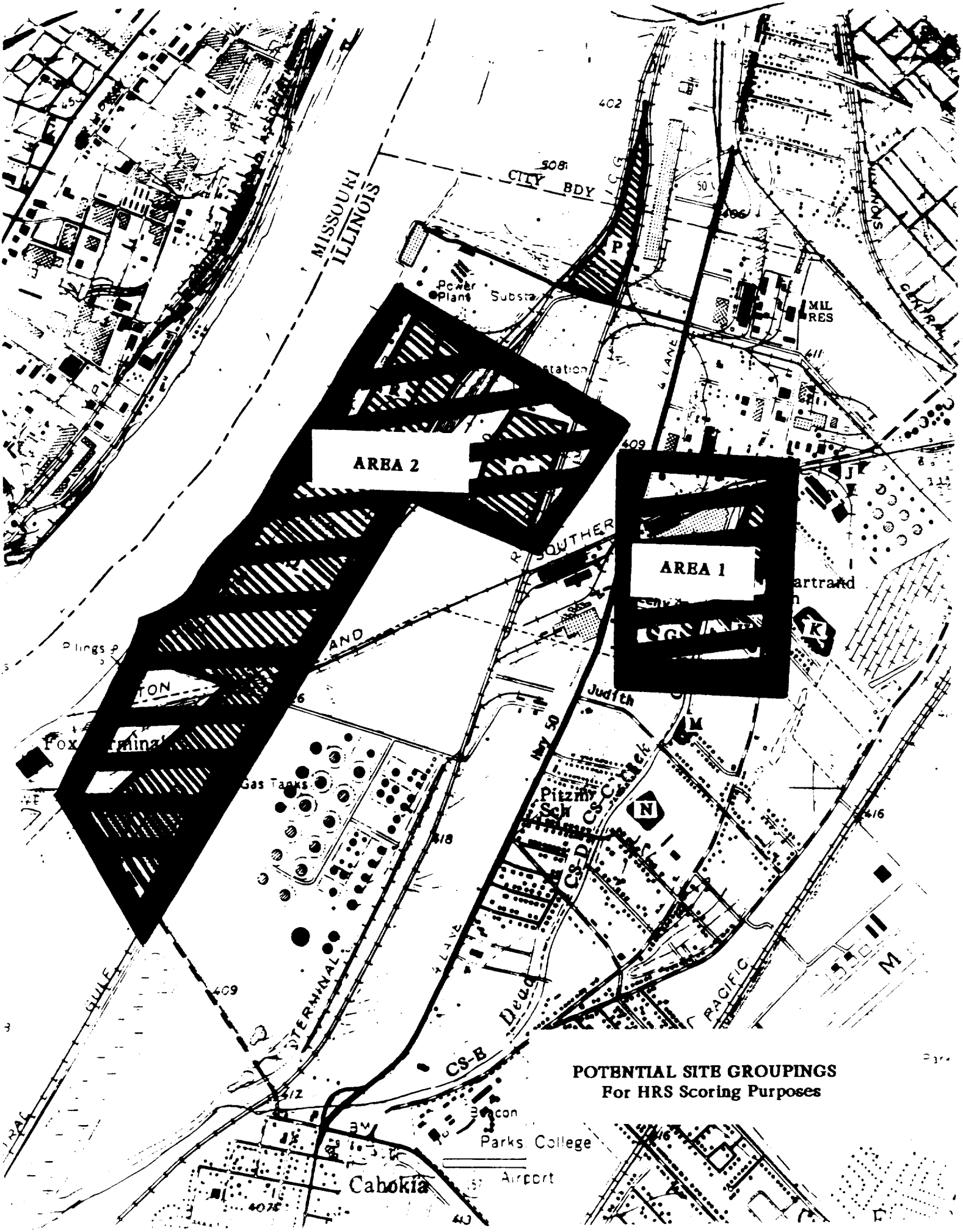
Surface soils samples from Site G (refer to map) show very high levels of organic chemicals, polychlorinated biphenyls (PCBs) and metals. Examples include pentachlorophenol (21,000 parts per million), Aroclor 1254 (29,000 ppm), cyanide (22 ppm) and mercury (23 ppm). Because of the extremely high levels of contaminants, special quality control methods had to be utilized to analyze the samples accurately. The site was fenced to prevent public access.

Subsurface soils at all Area 1 and Area 2 sites contain significant concentrations of a variety of organic chemicals, such as naphthalene (5,400 ppm) and Arochlor 1260 (4,400 ppm). Contamination was found at depths to a sampling maximum of 50 feet below the surface of the ground. Laboratory results indicated that chemical wastes with identical "fingerprints" (a method of identification) have been found at many different sites suggesting a possible common source for those buried wastes.

Groundwater samples show organic chemical contamination at every location, including phenol (60 ppm) at Site R, phenol (190 ppm) and pentachlorophenol (35 ppm) at Site Q, chlorobenzene (180 ppm) at Site O and benzoic acid (150 ppm) at Site G. Several of the groundwater contaminants are carcinogenic, others are acutely (short-term exposure) or chronically (long-term exposure) toxic. Groundwater sampling was limited to a relatively shallow portion of the aquifer.

It was also determined that contaminants are moving through the groundwater toward the Mississippi River at a faster rate than previously predicted.

Contamination of the Dead Creek surface water and sediment was found primarily in the creek sectors labeled CS-A and CS-B, all north of Judith Lane. Because the culverts are blocked at Queeny Avenue and Judith Lane, CS-A and CS-B are like surface impoundments, holding contaminants and run-off in place. Creek Sector B sediments contained a variety of organic chemicals, such as 1,4-dichlorobenzene (220 ppm), and metals, such as barium (17,300 ppm) .



POTENTIAL SITE GROUPINGS
For HRS Scoring Purposes

Effects of Contamination

The information obtained by collecting and analyzing samples (as previously described) is essential in the next step toward establishing Superfund eligibility; the identification of "migration, fate and impact" of the contamination. In other words, "where are the contaminants going and what happens when they get there?" The purpose is primarily to predict possible effects on the environment and the public rather than to provide an in-depth health study. The information will also be useful to the Illinois Department of Public Health (IDPH) as a base from which to begin a future public health assessment.

Although high levels of many hazardous wastes were found in the project area, that does not necessarily mean that human health has been or will be affected. For health to be affected, citizens must be exposed to the contaminants and the exposure, in most cases, must be repeated over a period of many years. Examples of exposure methods include skin contact with the chemicals in soil or water, drinking contaminated groundwater from wells, eating contaminated fish and inhaling chemicals through the air. Most of the areas of soil and water contamination are underground or fenced, city water is available to area residents and most areas where inhalation might be possible are isolated from the general public. The river and its fish are likely sources of exposure to the contaminants but further study is needed to be certain of effects on downstream water supplies and fishing.

The Next Steps of the Process

The process is certainly not a speedy one. Many citizens remember Governor Thompson's assurance in 1984 that Dead Creek would be cleaned up in a year. Since that summer, IEPA has discovered the full extent of the area's contamination including many previously unknown sites and hazards, the ineffectiveness of addressing only the creek instead of the whole area and the inability of the state to afford an appropriate type of remedy for the sites. Work on the study was delayed because IEPA had to obtain legal access to all the sites from the property owners before samples could be taken. Another slowdown that the Agency is facing is the U.S.EPA's revision of the scoring method, as required by the 1986 Congressional reauthorization of Superfund. No new sites can be submitted to the Federal Superfund until the new method has been proposed, made available for public comment, revised and accepted. It is predicted that all those steps will take until Spring, 1989.

Now that the Expanded Site Investigation is complete, IEPA must complete the "scoring package" which consists of a mathematical formula that incorporates the findings of the study. The various sites might be divided into two large areas (one east and one west of Illinois Route 3) and scored. The scoring packages must then be submitted to U.S.EPA for review and consideration.

SUMMARY OF THE ACCESSIBILITY OF SITES TO
THE GENERAL PUBLIC AND WORKERS

Site Designation	Access to General Public		Access to Workers		
	Restricted	Accessible	Not Applicable	Restricted†	Accessible
G	X*		X		
H		X	X		
I	X				X
J		X**			X
K		X	X		
L		X			X
M	X		X		
N	X			X	
O		X	X		
P		X			X
Q	X***				X
R	X			X	

* Access to Site G restricted due to the construction of a fence as a response action by USEPA.

** Site J is fenced, but has no other mechanism for restriction (open gates).

*** Pedestrian access to the south end of site Q is possible.

† Worker access is limited to employees having keys to or conducting work at the property.

Source: Ecology and Environment, Inc. 1988.

The Role of Local Industries

The Expand Site Investigation report was presented to the local industries for review in June, 1988. It is the goal of the IEPA that the industries take an active role in the ultimate solution to the contamination problems in Sauget and Cahokia. Many have been identified as contributors to the hazardous waste sites described in the study. Should the responsible parties refuse to participate the IEPA and U.S.EPA (once accepted to Superfund status) will move forward with the work and take legal action against the those parties to obtain reimbursement of costs.

For More Information

Citizens who would like to review the report can go to any of 4 locations:

1.) Cahokia Public Library
140 Cahokia Park Drive
Cahokia

2.) Cahokia Village Hall
103 Main Street
Cahokia

3.) Sauget Village Hall
2897 Falling Springs Road
Sauget

4.) Illinois EPA
2009 Mall Street
Collinsville
(contact Ken Mensing in advance)

Copies can be purchased from IEPA for $75.00 each (by check payable to: State Treasurer of Illinois).

Citizens who have questions about the Sauget Sites/Dead Creek project or who wish to purchase a copy of the report should contact:

Keri Luly
IEPA-G&CA #5
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

217/782-5562

or

Jeff Larson
IEPA-DLPC #24
2200 Churchill Road
Post Office Box 19276
Springfield, Illinois 62794-9276

217/782-6760

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